reference no: 2338
Publication date: 16 July 2026

Clinical Commissioning Policy:

Delayed-release mercaptamine bitartrate for patients with nephropathic cystinosis (Age > 1 years) [URN 2338]

Summary

The use of delayed-release (DR) mercaptamine bitartrate within its marketing authorisation for the treatment of patients with nephropathic cystinosis is recommended to be available as a routine commissioning policy within the criteria set out in this document.

Committee discussion

Clinical Panel agreed with the policy and recommended that it progresses as a routine commissioning policy. Please see Clinical Panel reports for full details of Clinical Panel's discussion. We have concluded that there is enough evidence to make the treatment available at this time.

The Clinical Priorities Advisory Group committee papers can be accessed here: Clinical Commissioning Policy: Delayed-release mercaptamine bitartrate for patients with nephropathic cystinosis (Age > 1 years)

What we have decided

NHS England has carefully reviewed the evidence to treat nephropathic cystinosis with delayed-release mercaptamine bitartrate.

The evidence review which informs this commissioning position can be accessed here: Clinical Commissioning Policy: Delayed-release mercaptamine bitartrate for patients with nephropathic cystinosis (Age > 1 years)

Links and updates to other policies

NHS England have no other policies relating to the use of DR mercaptamine bitartrate in nephropathic cystinosis.

Plain language summary

About nephropathic cystinosis

Nephropathic cystinosis is a rare autosomal recessive genetic disease. It is an incurable condition that results in accumulation of the amino acid cystine which forms crystals within

almost any cell in the body. This reduces life expectancy and is associated with significant morbidity throughout childhood and adult life. The physical manifestations of nephropathic cystinosis include renal involvement, with children often presenting with Fanconi syndrome (meaning kidneys are not absorbing salts and minerals), developing into chronic kidney disease often requiring dialysis or transplant. Extra-renal complications include poor growth, ocular involvement, and hypothyroidism in children, with adults subsequently becoming more likely to have diabetes mellitus, hepatic involvement, bone disease and central nervous system involvement.

Whilst this condition is life-long, it is generally diagnosed in early childhood, usually before the age of two. This significantly reduces life-expectancy and is associated with significant morbidity throughout childhood and adult life due to the development of renal and extra-renal complications.

About current treatment

Infants and young children with nephropathic cystinosis will often receive fluids and electrolytes initially. Vitamin D and phosphate replacement might also be given. If diabetes develops, it is managed with a low-sugar diet, insulin, or other medications to reduce sugar levels in the blood. If chronic kidney disease progresses, this is treated by dialysis or with a renal transplant.

Whilst there is no cure for nephropathic cystinosis, a medication, referred to as cystine-depleting therapy, can be used to reduce the accumulation of cystine in the cells. Cystine-depleting treatment can improve symptoms and delay problems with the kidneys and other parts of the body. It is considered best practice to start cystine-depleting treatment as soon after diagnosis as possible. Currently, the only available commissioned cystine-depleting therapy is immediate-release (IR) mercaptamine bitartrate. This is a capsule taken with food every 6 hours.

More generally, patients will need management by a multi-professional team. Paediatric patients will need support with nutrition, growth and development, and management of their renal Fanconi syndrome and chronic kidney disease. Adult patients are more likely to have established renal failure, and will need support with dialysis or transplantation, as well as the management of the multisystem complications associated with cystinosis.

About delayed-release mercaptamine bitartrate

The intervention is DR mercaptamine bitartrate, which can be taken as a capsule every 12 hours. The active ingredient is the same as the currently available IR mercaptamine bitartrate, but the formulation allows for twice daily dosing. This extended dosing regimen minimises disruption during school and/or work hours, as well to sleep during the night for both patients and carers. This could improve adherence to treatment for patients, delay the complications of cystinosis and improve quality of life for patients.

The total daily dose is based on patient weight and surface area.

Epidemiology and needs assessment

Nephropathic cystinosis affects 1 in every 100,000 to 200,000 live births (Emma et al, 2014). There are approximately 200 patients in the UK with two to three new cases every year (Cystinosis Foundation, 2021). It is estimated that approximately 75% of patients have difficulty adhering to the current licensed treatment, therefore approximately 150 patients per year would be eligible for the proposed intervention, DR mercaptamine bitartrate.

Implementation

NHS England will routinely commission DR mercaptamine bitartrate in accordance with the patient pathway for patients meeting all of the inclusion criteria and none of the exclusion criteria. Please note that the use of DR mercaptamine bitartrate as outlined in this policy is within the product marketing authorisation.

Inclusion criteria

Patients who are aged at least 1 year, with a confirmed diagnosis of nephropathic cystinosis, who meet at least one of the following criteria:

- They are cystine-depleting therapy naive and there are concerns about tolerability and adherence as determined by the multi-disciplinary team[1], the patient and/or their carer

OR

- They are currently taking IR mercaptamine bitartrate and there are concerns about tolerability, adherence or significantly impaired quality of life as determined by the multi-disciplinary team at the cystinosis service, the patient and/or their carer

OR

- In all patients currently taking IR mercaptamine bitartrate where there is biochemical evidence of high cystine levels (e.g. white cell cystine content is greater than 1nmol hemicystine/mg protein)

Exclusion criteria

Patients who meet the following criteria are not eligible for treatment with DR mercaptamine bitartrate under this policy:

- Those with contraindications as described in the Summary of Product Characteristics PROCYSBI 25 mg gastro-resistant hard capsules - Summary of Product Characteristics (SmPC) - (emc) (medicines.org.uk) PROCYSBI 75 mg gastro-resistant hard capsules - Summary of Product Characteristics (SmPC) - (emc)

Starting criteria

Nephropathic cystinosis care should be coordinated through a highly specialised cystinosis centre. DR mercaptamine bitartrate must be initiated by a physician experienced in the

treatment of cystinosis. It is best practice that cystine-depleting therapy is initiated promptly once a diagnosis is confirmed.

Where applicable, the prescribing clinician should be aware of the special warnings and precautions, including pregnancy and breast-feeding, for use of DR mercaptamine bitartrate as detailed in the Summary of Product Characteristics.

Stopping criteria

DR mercaptamine bitartrate must be stopped in patients who meet ANY of the following criteria:

- Shared decision between the patient (or their carer) and multi-disciplinary team to stop treatment due to concerns around tolerability, adverse events or side effects
- No reported improved adherence by patient or carer [2]
- Persistent worsening of cystine levels on optimum dosing after a 12-month trial (e.g. rising white cell cystine levels)

Dosing

Dosing depends on the body surface area of the patient and is described full in the Summary of Product Characteristics.

The maximum daily dose should not exceed a total of 1.95 g/m^2/day.

Monitoring

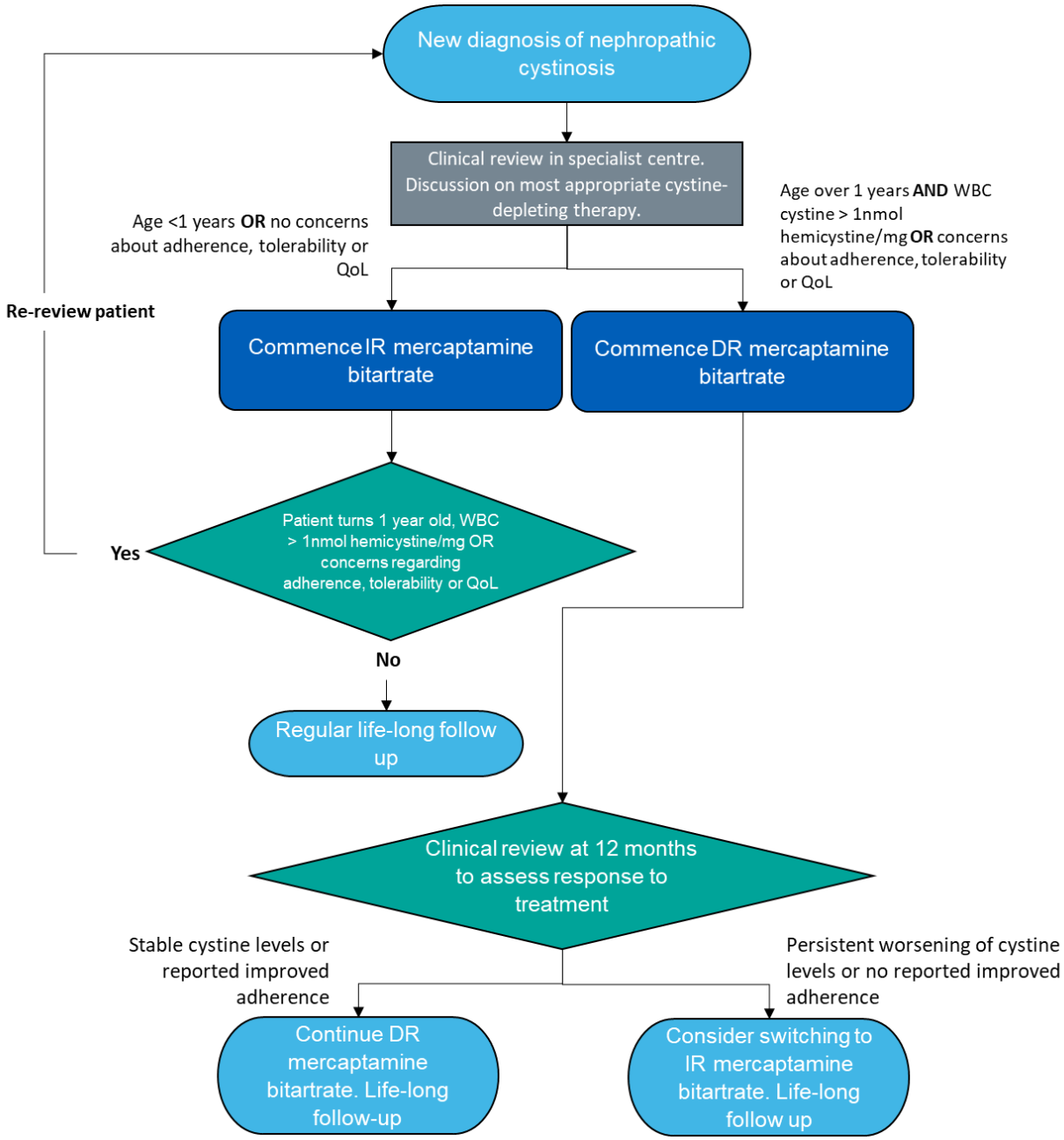
All patients with nephropathic cystinosis started on DR mercaptamine should receive a minimum of three-monthly clinical review at their highly specialised centres (HSC) within the first year of treatment. After the first year, reviews should be every 6-12 months coordinated between HSC annual reviews and local specialist renal centre reviews.

The goal of treatment is to keep the white blood cell cystine levels below 1nmol hemicystine/mg protein. The determination of white blood cell (WBC) cystine must be obtained 12.5 hours after the evening dose the day before, and therefore 30 minutes after the following morning dose is given. Patients should initially have their WBC cystine level, full blood count (FBC) and liver function tests (LFTs) monitored monthly until a stable WBC cystine level has been achieved. After this, WBC cystine levels, FBC and LFTs should be done on a three-monthly basis in line with EMA guidance. In patients being switched from IR mercaptamine to DR mercaptamine, their WBC cystine level should be measured every 2 weeks and every 3 months thereafter in line with SmPC guidance. Bloods can be done at local centres to minimise travel for patients.

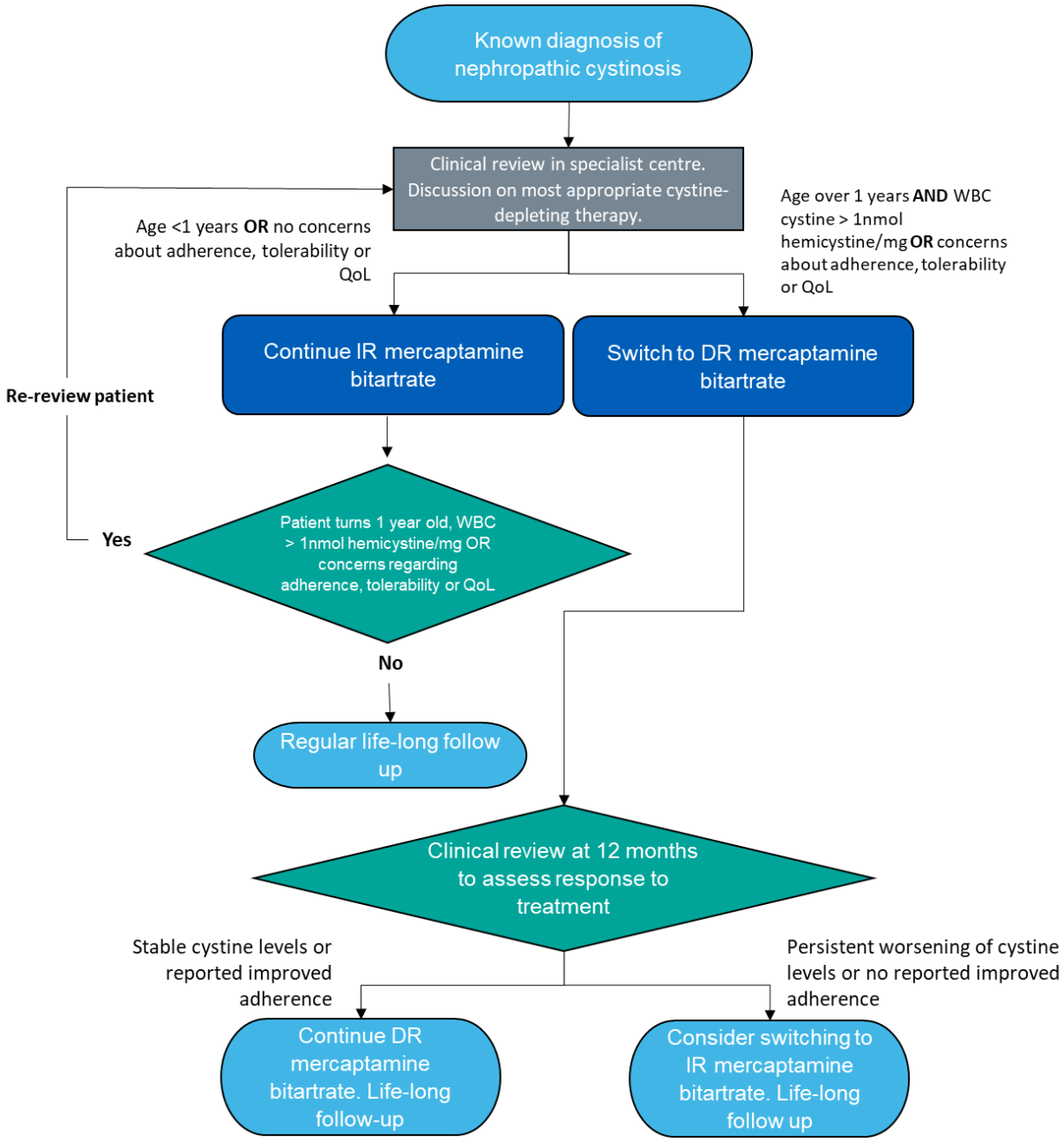
It is expected that patient or carer reported adherence is explored during specialist reviews. All patients should have their white cell cystine levels and other clinical data submitted to RaDaR in keeping with current practice.

Patient Pathway

New diagnosis of nephropathic cystinosis



Known diagnosis of nephropathic cystinosis



Governance arrangements

This policy should be used in conjunction with the following service specifications:

Cystinosis diagnosis and co-ordination of management (all ages) 1640 – 230801

Any provider organisation treating patients with this intervention will be required to assure itself that the internal governance arrangements have been completed before the medicine is prescribed. These arrangements may be through the Trust's Drug and Therapeutics committee (or similar) and NHS England may ask for assurance of this process.

Mechanism for funding

DR mercaptamine bitartrate within the criteria set out in this document will be commissioned and funded by NHS England under existing arrangements for the provision of specialised services.

Audit requirements

Provider organisations must register all patients using prior approval software and ensure monitoring arrangements are in place to demonstrate compliance against the criteria as outlined. This information is collected to inform future policy revisions.

Policy review date

This document will be reviewed when information is received which indicates that the policy requires revision. If a review is needed due to a new evidence base then a new Preliminary Policy Proposal needs to be submitted by contacting england.CET@nhs.net.

Our policies provide access on the basis that the prices of therapies will be at or below the prices and commercial terms submitted for consideration at the time evaluated. NHS England reserves the right to review policies where the supplier of an intervention is no longer willing to supply the treatment to the NHS at or below this price and to review policies where the supplier is unable or unwilling to match price reductions in alternative therapies.

Equality statement

Promoting equality and addressing health inequalities are at the heart of NHS England's values. Throughout the development of the policies and processes cited in this document, we have:

- Given due regard to the need to eliminate discrimination, harassment and victimisation, to advance equality of opportunity, and to foster good relations between people who share a relevant protected characteristic (as cited under the Equality Act 2010) and those who do not share it; and
- Given regard to the need to reduce inequalities between patients in access to, and outcomes from healthcare services and to ensure services are provided in an integrated way where this might reduce health inequalities.

Definitions

Cystine	A natural chemical (amino acid) which is found in proteins in the body.
Cystine-depleting therapy	This is a term used to describe mercaptamine bitartrate in both delayed-release and immediate-release formulations.
Dialysis	A procedure that involves removing the waste products and excess fluid from the body when the kidneys stop working.
Mercaptamine bitartrate	This is also referred to as cysteamine. This is a medicine that reduced the build-up of cystine in areas of the body and reduces symptoms caused by cystinosis. This policy is for the delayed-release formulation. An immediate-release formulation is currently available.
Nephropathic cystinosis	A rare inherited disease caused by a mutation to the CTNS gene (which encodes the protein cystine) and produces the build-up of cystine crystals in the body.

References

Emma F, Nesterova G, Langman C, Labbé A, Cherqui S, Goodyer P, Janssen MC, Greco M, Topaloglu R, Elenberg E, Dohil R, Trauner D, Antignac C, Cochat P, Kaskel F, Servais A, Wühl E, Niaudet P, Van't Hoff W, Gahl W, Levtchenko E. Nephropathic cystinosis: an international consensus document. Nephrol Dial Transplant. 2014 Sep;29 Suppl 4(Suppl 4):iv87-94. doi: 10.1093/ndt/gfu090. PMID: 25165189; PMCID: PMC4158338.

References Genetic Alliance, 2021 Cystinosis Foundation [Online] https://gneticalliance.org.uk/gauknews/news/cystinosis-foundation-uk-cfuk/